A PROSPECTIVE, RANDOMIZED, OPEN LABEL, COMPARATIVE STUDY OF CHOLECALCIFEROL AS AN ADD ON THERAPY TO STANDARD TREATMENT IN ADULT PATIENTS WITH BRONCHIAL ASTHMA

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ABSTRACT

OBJECTIVES:

To evaluate the efficacy and tolerability of Cholecalciferol as an add on therapy to standard treatment in modifying disease severity in adult patients with bronchial asthma.

BACKGROUND:

Bronchial asthma one of the most common chronic diseases globally is a chronic inflammatory disease of the airways. Chronic inflammation leads to airway remodelling resulting in irreversible airway obstruction. Treatment of bronchial asthma includes bronchodilators – beta-2 agonists, anticholinergics, methylxanthines; leukotriene antagonists and corticosteroids. Cholecalciferol (Vitamin D) has been found to play key beneficial role in asthma. Cholecalciferol reduces airway inflammation by increasing the levels of anti-inflammatory cytokines. Vitamin D also reduces airway hyper responsiveness and improves the response to inhaled and oral corticosteroids. Hence, the present study was planned to evaluate the efficacy of Cholecalciferol as an add on therapy in patients with bronchial asthma.

METHODS:

A prospective, randomized, open labelled, comparative study was conducted in asthmatic patients of mild to moderate severity attending Thoracic Medicine OPD of Rajiv Gandhi Government General Hospital. After screening, the study subjects(n=60) were allocated into 2 groups by simple randomization. Control group(n=30) patients received Formoterol(6 mcg) and Budesonide(200 mcg) metered dose inhaler(MDI) bid and study group(n=30) patients received Formoterol(6 mcg) and Budesonide(200 mcg) metered dose inhaler(MDI) bid with Tablet cholecalciferol 1000IU/D for 12 weeks and followed-up after 4 weeks.

RESULTS:

The primary outcome of the study was to measure the change in Forced Expiratory Volume in one second (FEV1), Forced Vital Capacity (FVC) & Peak Expiratory Flow Rate (PEFR). Improvement in FEV1, FVC & PEFR values in study group was significant at the end of 12 weeks($p<0.05$). In addition, the frequency of exacerbations in study group was less compared to control group. No serious adverse events were reported in both groups.

CONCLUSION:

We conclude that Cholecalciferol supplementation improves the long-term control over bronchial asthma and is well tolerated.

KEY WORDS: Asthma, Vitamin D, Cholecalciferol,Inflammation, FEV1, FVC, PEFR.